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## A SUMMARY OF THE NATIONAL RECONNAISSANCE PROBLEM

## (1) Introduction:

Intelligence vital to the national security of the US now depends to a very large extent on photography acquired by overhead reconnaissance. This important intelligence source has been developed quite dramatically over the past ten years. All of our present photography has been collected by [redacted]

The U-2 overflight program begun in 1956 by CIA provided our first real access to the Soviet Union and continued until 1960. Since that time, the U-2 has been operated over China and other parts of a troubled world where it provides a prompt and almost unique access.

The Air Force ballistic missile program begun in 1954 provided the basis for serious efforts to acquire photography with earth orbiting satellites. The SAMOS program was a broadly based, technically sophisticated Air Force program aimed at developing a space recon capability. The SAMOS program failed to produce a single photograph and was cancelled as the costs increased toward [redacted]

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When the difficulties of the SAMOS effort became evident in 1958, CIA was directed to develop a relatively simple satellite reconnaissance system based on physical recovery of the film from orbit. This program became CORONA (also DISCOVERER) and produced the first satellite photography in October 1960. Since that time, there have been 47 successful flights which have produced almost four hundred million square miles of photography of the Sino-Soviet Bloc with a resolution of 10 to 20 feet.

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## (2) Organizational Evolution:

The evolution of a national organization to conduct reconnaissance activities came well after the development and operation of the U-2 and CORONA--and the SAMOS program. These programs began as individual assignments to CIA or the AF.

The U-2 was assigned to CIA in 1954 for several reasons. Obvious was the need for unusual security in its development and operation, both of which were accelerated by the unique ability of the DCI to expend funds on a special basis. It was also based on previous CIA experience in covert overflights for other

**NAVY review(s) completed.**

**NRO review(s) completed.**

purposes and the ability of CIA to establish confidential agreements with foreign governments for overseas basing of the U-2. There was also the major appeal of a civilian espionage operation which, in case of a shootdown, could not be identified with or misconstrued as part of strategic military operations. However, it should be noted that the U-2 program from the beginning has been a collaboration between CIA and the U.S. AF, a collaboration which has been successful, guided to this day by the CIA/AF U-2 Agreement of 4 August 1955. When the decision was made in 1959 to proceed with the development of the Mach Three recon successor to the U-2 (OXCART) a similar CIA/AF bilateral agreement was struck.

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The SAMOS program was established solely within the AF Systems Command without CIA participation. It gradually changed its management form until it ultimately reported directly to the U/Secty of the AF.

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The CORONA program was really a joint venture between CIA and the AF. CIA developed and procured the camera, recovery vehicles and spacecraft, and the AF SC supplied the boosters, tracking and recovery forces.

As these major programs evolved, some felt it important to find a common basis for developing and operating all strategic overhead recon systems, the cost of which had risen by 1961 [redacted] exclusive of SAMOS.

This provided the need for attempts to find an acceptable basis for a National Recon Program, which would combine the capabilities of both CIA and DOD.

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The first NRO Agreement was struck in September of 1961 and was little more than a description of the effective partnership which then existed between CIA and the AF. The second NRO Agreement was signed in May of 1962 and clearly gave the lead to the Air Force, while preserving to CIA all "covert" aspects. The third and final NRO Agreement was advanced and signed in March of 1963. This gave the Air Force virtual control over all CIA programs and established NRO as an operating organization with implied line authority over those elements of CIA involved in reconnaissance. An NRO funding agreement signed one month later eliminated direct appropriations from Congress to CIA for its programs and thereby passed budgetary control of the total effort to DOD. This third agreement is the basis under which the program has operated to this date, with a steady shift from full partnership toward a single agency control.

The present arrangement has been neither a happy nor productive one. The problem of operating a line organization across departmental boundaries has caused serious, continuing problems. External program control has frustrated many CIA initiatives or forced their development outside the terms of the agreement. Everyone who is aware of the NRO situation is properly concerned about it, and many believe that the present arrangement is basically unworkable. Thoughtful people in DOD and CIA have given active consideration in the past six months to trying to establish an improved basis for operation of the NRO. A variety of concepts have been proposed, ranging from complete elimination of CIA to re-establishment of the former partnership. It does not seem that there is a neat solution. However, there is an urgent need to find a satisfactory solution, urgent because of the enormous strains of the present arrangement and because of the critical importance of the intelligence product to our national security.

(3) The Case for Single Agency Control:

The present situation would be clarified if a single agency or department were given the exclusive responsibility for overhead reconnaissance. This would eliminate the present coordination between departments and agencies--and the friction generated thereby. It would ensure tight command channels to all elements of the activity and provide a single point of responsibility. It would ensure an integrated budget and provide a single point for tasking by the intelligence community. In short, it would provide all the organizational advantages of a monopoly.

Because these advantages are considerable, we must look seriously at the several agencies to see if any of them can properly fulfill such a franchise. The potential candidates are: AF, CIA, Navy, Army, NASA, and DIA. We can eliminate several of these almost immediately. DIA has no research and development capability and no operational experience and cannot be considered seriously. Although NASA HAS many of the technical capabilities required, it is not well organized to carry on a covert activity like this. The Army has little experience in developing and operating high performance reconnaissance aircraft and has played no significant role in space for some time. The Army did collaborate with CIA in establishing the ARGON geodetic and mapping satellite program as an adjunct to CORONA. Nevertheless, the Army is probably not a serious contender for this role.

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The U.S. Navy has developed and operated advanced tactical recon a/c over hostile territory (Cuba, Laos, NVN). [redacted]

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[redacted] They have supported CIA in carrier operations of the U-2 and could undoubtedly carry these out themselves in a secure way. However, they have played no role in the OXCART program thus far. The Navy has proposed other space surveillance systems, some based on their mobile Polaris launching capability, but we gather have been frustrated in pursuing them by the NRO. The USNavy is a respectable but not unique candidate for a single agency steward of the NRP.

The AF is a strong contender for this role and an active candidate. It has the resources for operating advanced a/c and launching satellites, and has provided this support to the U-2 and CORONA program. However, the central question is whether the AF shld perform the entire msn, from conception through development to operation. Unfortunately the record speaks strongly against such an assignment.

The AF in 1954 refused, at the highest levels, to develop the U-2 because it did not meet their multiple requirements; and it was left to CIA to pursue its realization and exploitation. SAC did procure thirty addtl U-2's for its own needs in case of hostilities, but has declined to upgrade and improve this capability (see below). [redacted]

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[redacted] The OXCART has followed somewhat the same pattern, with SAC procurement of the SR-71 as a follow-up to the CIA initiative. However, in the low-level tactical recon arena (non-NRO), the AF has developed a very fine capability.

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CXCART has followed somewhat the same pattern, with SAC procurement of the SR-71 as a follow-up to the CIA initiative. However, in the low-level tactical reconnaissance arena (non-NRO), the Air Force has developed a very fine capability.

In the satellite field, the Air Force began with a clear monopoly in SAMOS and ended in disappointment with no photography. Some of this may be due to the fact that it was a large, unwieldy program with no strong project control. It is also undoubtedly true that successive versions of SAMOS attempted too much--technically--in response to unrealistic, multiple Air Force requirements. For instance, one version of SAMOS (B-5) was warped around to provide a space vehicle capable of supporting a military man into space in competition with NASA's MERCURY program.

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In the satellite field, the Air Force has had nearly unlimited resources and has produced some significant successes. Their disappointments have been significant too and are traceable in large part to a responsiveness to enlarged, departmental requirements rather than the single problem of acquiring national intelligence. It is this preoccupation and lack of focused effort which makes thoughtful men reluctant to grant them the national franchise.

CIA itself is the last candidate. It has a good record of performance--U-2, CORONA and OXCART--with no

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failures thus far. All of its ventures have been focused on the single objective of acquiring photographic intelligence. CIA has not had the resources to carry out such programs unaided, and its success is due in no small part to the Air Force support provided. However, there is an important element in the CIA programs of "working on the right problem."

Recognition of the U-2 potential and its prompt, economical, secure implementation was its first contribution. Since the basic U-2A was produced, CIA has gone on to develop a refueling version and a carrier takeoff/landing capability. The original J-57 jet engine was replaced by the J-75 in 1960 with an important altitude increase.

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[Redacted] In 1963 it was recognized that the CORONA satellite cameras could be modified for use in the U-2 to give a significant improvement in resolution.

[Redacted] was done over the objection of AEC.

[Redacted] and this

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[REDACTED] It should be noted that none of the above improvements are incorporated in the SAC U-2 fleet, and when such an aircraft is provided to CIA to replace an operational loss, it requires four months of modification to bring it up to CIA specification. The important thing about the U-2 was that its only job was to acquire intelligence.

The OXCART program was started in 1959 by CIA with White House concurrence as the logical successor to the U-2, which was then nearing the end of its Soviet capability. The OXCART presented a challenge on the technical frontier but has proceeded more rapidly than either the B-70 or B-58. It is now nearing operational readiness with CIA civilian pilots and has already demonstrated its capability to produce high resolution (one foot) photography at penetration altitude and speed. OXCART was the first large scale development

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undertaking of CIA and its cost considerably more than originally estimated. However, this cost is substantially lower than the B-70 development program. Based on this experience, CIA has developed a proposal for a third generation reconnaissance system--~~INVISIBLE GLASS~~. This is an air launched, reusable rocket boosted glider which could probably operate successfully over the Soviet Union even if their growing defensive systems had eliminated satellite reconnaissance. Such a system could be ready in four years and its cost would be comparable to that of OXCART. However, its development is a national level policy decision which has not yet been sought or obtained.

The CORONA program has been adequately described elsewhere in this paper. It is only important to add that it began in a modest way--partly as a backup to SAMOS--with the simple objective of returning photographs from orbit. The first photography was not of very high quality but the system has been steadily improved over the past five years. A double camera version was introduced in 1962 to provide stereoscopic

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coverage) and a second recovery cycle (in mid-June) to double the amount of film (coverage) obtained. The CORONA has provided the greatest variety of intelligence photography of the Sino-Soviet Bloc and is today the workhorse of the NRO program.

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In retrospect, only CIA and the Air Force are serious contenders for a single Agency franchise on national reconnaissance. The demonstrated performance of CIA is clearly superior to that of the Air Force. We believe that this is attributable to three basic factors. The most important is that the collection and analysis of intelligence is the only business CIA has. The second asset is the competency of its professional staff. The last is its unique legislative authority to pursue programs promptly with confidential funds and to manage them in a streamlined way. However advantageous these may be, they are not enough to allow CIA to carry the entire reconnaissance burden alone. Air Force support has been an essential element in the success of CIA, and we cannot forecast a continuation of its success without such support. By elimination then, we seem compelled to give up the concept of a single agency control.

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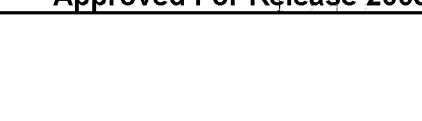
(4) The Case for Resurrected Partnership

If one concedes that the substance of the national reconnaissance program is more important than the organizational form, one must look for an effective way to continue the CIA/DOD partnership in this area with a new NRO arrangement. We have made a proposal to the DOD which attempts this revision. It eliminates the concept of line authority running between agencies, and recognizes the following situations in each of the major areas of the National Reconnaissance Program.

The U-2 and OXCART programs continue to operate satisfactorily under the bilateral agreements between CIA and the AF, and the present NRO arrangement has had little impact on these activities, except for establishing funding levels. Both programs are good working examples of effective collaboration between CIA and the Air Force. However, it would be helpful to make an explicit policy decision on what operational role CIA and SAC oversight assets should play under various circumstances. SAC U-2's with military pilots now fly missions over Cuba and Vietnam on the basis that these are tactical operations in areas of

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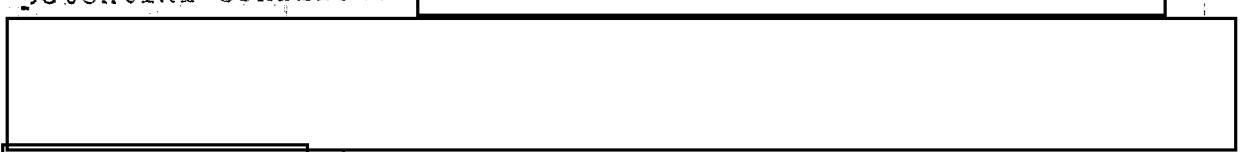
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potential conflict.



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An orderly division of overflight responsibilities between overt military and covert civilian coverage of denied territory is contained in the CIA proposal for a new NRO arrangement. A second need is to ensure that adequate resources are provided to CIA and the Air Force to continue to improve both the U-2 and OXCART capabilities, and if appropriate to begin the development of the third generation reconnaissance aircraft--USINGCLASS.

Reconnaissance using drone aircraft is another arena.

The current photographic drones operated in Asia by the Air Force are similar to the U-2, but with somewhat less capability--and considerably less survivability. The

drone version of OXCART (TAGBOARD) developed by CIA was transferred to the Air Force by the NRO, and should probably be reintegrated into the covert OXCART operational units operated by CIA. However, it is our view that drone development and operation can follow the pattern established for manned aircraft operations, and we feel that this is not a major problem area for NRO resolution.

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The present difficulties in NRO focus largely on the development and operation of satellite reconnaissance systems. The common elements of all satellite operations are the large rocket vehicles used to place them in earth orbit. These boosters have been developed by both the Air Force and NASA. The Air Force launching capability at Vandenberg is more secure than NASA's activity and does not involve the question of NASA participation in SECRET programs. On the other hand, there are important booster vehicles in the NASA program which should be available for support to the NRO if appropriate. However, boosters are not the real problem.

The essential elements of a satellite reconnaissance program are three in number. The first is the reconnaissance payload itself--either photographic or electronic--which is carried into orbit by the booster. The second element is the targeting, orbit choice for such missions and on-orbit payload control to meet national intelligence requirements. The third is the orbital operation of reconnaissance vehicles, their tracking, communication, command and recovery. There is no argument that this third function belongs to DOD,

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and because of its own internal decisions, to the Air Force. Such an assignment is explicitly recommended in the CIA proposal. Furthermore, there is now agreement at the highest level in DOD that the targeting and orbit choice function is an intelligence function which properly belongs in CIA.

(5) The Residual Question

What remains to settle is who shall conceive, develop and procure the satellite payloads that are the heart of those reconnaissance systems? The present situation has the Air Force, CIA, Navy and (to a minor extent) the Army, engaged in this activity. The question is how should this be accomplished in the future. One proposal is that CIA should develop all reconnaissance payloads, since it must be done secretly, because the design should be responsive primarily to national intelligence needs. This would imply a continuation and extension of the CIA/AF partnership developed in the CORONA program with the Air Force supplying the booster and on-orbit support.

The converse proposal is to have the Air Force develop all satellite payloads; and has been actively supported in some quarters. The basic problem is that it would give the

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unrealistic to expect such organizations to give their best  
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also unreasonable to expect the development and application of  
agency to have deep, continuing enthusiasm for  
concepts and become "founding father's  
conceptual and operational parent."

[redacted]  
Another viewpoint is that there is no competition in this field between Open Skies and the Air Force on the premise  
that such an important issue as the development of such a  
competitive developments. However, it is difficult to imagine  
such a competition orderly, especially with a rapidly  
technical and industrial base in which to establish  
competition.

[redacted]  
All things considered, it is felt that the issue of  
reconnaissance that has been central to the  
thus far. Only a small portion of the  
payload--is at stake, although it represents the total intelligence  
it represents the total intelligence consideration.

[redacted]  
Several solutions are possible. It is hoped that the CIA  
proposal of orderly development and procurement assignment  
provides the most flexible solution for a rapidly changing

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